# DOOSAN Document Transmittal

Upper Trishuli-1 HEP (216MW)

| Date | DT No.: | SHEET |
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| 2022-03-25 | UT1-HEP-DHI-PC-D-0016 | 1 OF 1 |

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| SUBJECT | Review Note RN-0094_Outline of Diversion Tunnel Intake Tower | | |

| S. N. | REVIEW NOTE NO. | REVIEW STATUS | DWG. / DOC. NO. | REV. | DWG. TITLE / DOC. DESCRIPTION | REMARK |
|---|---|---|---|---|---|---|
| 1 | RN-0094 | AN | UT1-C-010-CVL-DG-42008 | 0B | Outline of Diversion Tunnel Intake Tower | |
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Legend of Review Status
A : APPROVED
AN : APPROVED AS NOTED
RR : RETURN FOR RESUBMISSION
FI : FOR INFORMATION

DHI STAMP

Doosan Heavy Industries & Construction Co. Ltd. DOOSAN Branch Office Nepal

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Discipline : Civil

| UPPER TRISHULI-1 HEP (216MW) | | | |
|---|---|---|---|
| **Client** | **Nepal Water and Energy Development Company Private Limited** | | |
| **Owner's Engineer** | **Tractebel Engineering GmbH / Jade Consult** | | |
| **REVIEW NOTE** | | | |
| Contractor | **Doosan Heavy Industries & Construction Co., Ltd.** | | |
| Title of the Document | Outline of Diversion Tunnel Intake Tower | | |
| Document No. | UT1-C-010-CVL-DG-42008 | Revision | 0B |
| Date of Documents | 09.03.2022 | Received Date | 15.03.2022 |
| Transmittal Form No. | UT1-HEP-DHI-D-0180 | | |
| Previous Review Date/Status | 27.02.2022/FI | Prev. Review Note No. | RN-0060 |
| Review Note No. | **RN-0094** | **Present Review Date** | **25.03.2022** |
| | | **Present Review Status** | **AN** |
| A: Approved AN: Approved as Noted RR: Returned for Resubmission FI: For Information, only. | | | |

## 1. General Comments:

As the document under review is part of the Design Optimization Proposal process.

This review note RN-0094 only comments the document ref.: *UT1-C-010-CVL-DG-42008_0B* in technical/ design aspects.

## 2. Comments to RC-0026:

General comments regarding annotation of Elevations, Dimensions, Legend, Line types, Hatch types, Center lines, Drawings' name and No., and so on are responded and drawings are revised, please refer to Rev.B.

OE: Not all general comments have been responded and revised as per RN-0060 (Max. flood level, detail of sill beam, definition of rubble concrete, reinforcement drawings as ref. dg.

**Issue 1: Location of construction joint and water stop**

OE: No further comments

**Issue 2: The level of top platform**

**and**

**Issue 3: Stoplog installation**

OE: Level and dimension of platform has to be confirmed also by the supplier of the diversion tunnel intake gate. The Contractor has to guarantee that the plugging of the diversion tunnel will be finalized completely before the water level will rise above deck elevation EL. 1.250.50. Water ingress via the "air vent steel pipes" before finalizing the plugging of the diversion tunnel has to be avoided.

**Issue 4: The transition section**

OE: As indicated in the document under this revision, in the gate area the concrete structure has a combined rectangular shape (bottom and side walls) with an arc shape at the ceiling, which is not a D-shape. However, the sliding gate with its sealing level has a rectangular shape. The integration of the embedded hydraulic steel parts within the concrete structure in this area has to be elaborated in detail and has to be confirmed by the supplier of the hydraulic steel structures of the diversion tunnel intake structure.

## 3. Further comments:

1) „Wet masonry, T=1m, D=0,35m“ which is indicated U/S of the concrete structure is not understood and has to be specified. High flow velocity has to be considered in the close U/S part of the intake structure of the diversion tunnel.
2) Lean concrete shall be considered and specified.
3) The respective reinforcement drawings shall be mentioned as reference drawings.
4) The mentioned reference drawing UT1-H-300-LPC-DG-01004 is the “design memorandum of the diversion gate” and not the drawing “Diversion Tunnel Stoplog 1st stage embedded parts”. It has to be corrected to UT1-H-010-MEC-DG-01004.
5) Section B-B/ Joint Bar Section B-B:
   The lintel beam/ sealing level shall be indicated.
6) Section C-C:
   It has to be considered that the situation on site is not reflected in the section C-C. Most part of the Diversion Tunnel Intake Structure is not embedded in rock.

DISCLAIMER

Any approval will not release the Contractor from any of his obligations under the Contract.

Sebastian Beck, Chief Design Engineer